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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/614,118	07/11/2000	David W. Cannell	5725.0393	1975
22852	7590	11/08/2004	EXAMINER	
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 1300 I STREET, NW WASHINGTON, DC 20005			SHEIKH, HUMERA N	
			ART UNIT	PAPER NUMBER
			1615	

DATE MAILED: 11/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/614,118

Applicant(s)

CANNELL ET AL.

Examiner

Humera N. Sheikh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 30-56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 30-56 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/04/04 5-24-04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Status of the Application

Receipt of the Request for Continued Examination (RCE) under 37 C.F.R. §1.114, the request for extension of time (3 months-granted) and the Information Disclosure Statement (IDS), all filed 05/24/04 is acknowledged.

Claims 30-56 are pending. No amendments to the claims have been made. Claims 30-56 are rejected.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 30-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wisotzki et al. (US Pat. No. 4,900,545) or Koga et al. (US Pat. No. 5,660,838) or Syed et al. (US Pat. No. 5,641,477).

Witsozki ('545) teaches a method for the regeneration of hair split-ends and for caring for and revitalizing mistreated hair, comprising applying to the hair, a treatment composition comprising mono- or disaccharides, more especially, the pentoses (5 C-atoms) and hexoses (6-C-atoms), and also the disaccharides derived from the pentoses and hexoses (see reference column 1, line 49 through col. 2, line 49).

Witsozki teaches that the mono- or disaccharides are any aldoses and ketoses or their mixtures. Witsozki further teaches that suitable monosaccharides include glucose, mannose, galactose, ribose, arabinose, xylose, fructose and sorbose, while suitable disaccharides include sucrose, lactose, maltose and cellobiose (col. 2, line 36-49). Also suitable are naturally occurring or technical mixtures wherein the mentioned mono- or disaccharides are predominant. Glucose is used as an example, in this instance.

The treatment preparations are in the form of aqueous solutions or emulsions, which may be formulated into shampoos or permanent wave setting lotions (cols. 3 and 5-6). Witsozki teaches that the sugars are present in the composition in percentages ranging from 0.1% to 8% by weight (col. 2, lines 24-30). This range clearly meets the applicant's required range of 0.01% to 5.00%.

The instant invention is drawn to a method of protecting a keratinous fiber from extrinsic damage or repairing a keratinous fiber following extrinsic damage, comprising the application of C₃-C₅ monosaccharide sugar composition.

Witsozki teaches such a method for regenerating, revitalizing or repairing hair comprising applying mono- or disaccharide sugar, particularly of pentoses (5 C-atoms) and the disaccharides derived from pentoses (see col. 2, lines 36-40). Witsozki teach at col. 6, lines 3-5, that, "in every case, it was found that the hairs had been regenerated, i.e., the split-ends had been partially *repaired*." There is no distinction observed between the prior art and the instant invention since the applicant's objectives have clearly been met and addressed by the prior art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the teachings of Witsozki, who teaches a method of repairing split-end hair, comprising sugars, such as (5 C-atoms) pentoses and the disaccharides derived from the pentoses, because Witsozki demonstrates that a hair regenerating effect can be enhanced by employing a mono- or disaccharide to treat damaged hair. The expected result would be an improved method for regenerating split-ends and ultimately, a progressive reparative process for keratinous substances.

Koga ('838) teaches a method for providing enhanced moisture retention and reducing excessive roughness and dryness of the hair comprising the application of a xylobiose sugar composition to the hair (see Abstract). Koga teaches that xylobiose preparations are effective not only in reducing excessive roughness and dryness of the skin to impart a natural moistness

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and luster but also in reducing excessive roughness and dryness of the hair to give a natural oiliness (col. 1, lines 8-14).

Xylobiose may be incorporated into hair care products, such as hair treatments, rinses and hair conditioners, and detergents such as hair shampoos and body shampoos. The preparations can be formulated into various dosage forms, such as aqueous solutions, emulsions and water/oil bilayer systems (col. 2, lines 14-26).

Xylobiose is taught to be contained in an amount of 0.0001% to 20-wt %, preferably 0.1% to 10 wt % of the composition (col. 2, lines 27-36). This range clearly meets the applicant's required range of 0.01% to 5.00%.

Koga teaches that the xylobiose composition contains xylan saccharified products other than xylobiose, such as xylose and xylotriose. These materials will in no way, impair the moisture-retaining capability of xylobiose (col. 2, lines 37-46).

Bases that are used in the cosmetic compositions can include, sugar esters, saccharides and sorbitol, for example (col. 3, lines 5-15). The examples in columns 4-9, taught by Koga demonstrate the measurements of moisture retaining capability of xylobiose in various skin preparations. In Example 7 (col. 10), Koga teaches the use of xylobiose in a hair shampoo formulation. The results show a natural oiliness when actually applied to the hair and are satisfactory in reducing excessive roughness and dryness of the hair (and skin) (col. 10, lines 1-27).

The instant invention is drawn to a method of protecting a keratinous fiber from extrinsic damage or repairing a keratinous fiber following extrinsic damage. There is no distinction observed between the prior art and the instant invention, since the prior art teaches the reduction

of roughness and dryness of the hair. The examiner notes that this is, in essence, a reparative process for improving damaged hair.

Koga teaches a method for reducing excessively dry, rough hair and restoring hairs natural oiliness with moisture. Rough, dry hair is usually brittle, weak hair. As is generally known, hair that is moist or oily tends to be stronger in nature than rough, dry hair. Koga teaches that the xylobiose composition, which is used in various forms (i.e., hair care products, such as hair treatments, conditioners, rinses, shampoos, etc), reduces the excessive dryness and roughness of hair.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the xylobiose composition of Koga, who demonstrates an effective method of reducing excessive rough, dry hair through the application of xylobiose, because Koga teaches that xylobiose exhibits high moisture retaining capabilities. The expected result would be moist, healthier looking, stronger hair.

Syed ('477) teaches a method for the reduction of hair damage and a process for relaxing hair fibers, comprising applying to the hair fibers, a lanthioniztion composition that comprises sugars, resulting in less damaged hair that has *greater tensile strength* as that compared to hair that does not contain sugar. The composition may contain one or more sugars, or a combination of hydrogenated starch and sugars. Syed teaches that the sugar may be contained in the composition in the range of about 0.1% to about 5.0% by weight of the composition (see

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reference column 2, lines 48-67). This range clearly meets the applicant's required range of 0.01% to 5.00%.

Representative sugars that can be used in the composition include, but are not limited to sucrose, glucose, fructose, sorbitol and glycerol. The sugars preferably used are sucrose or sorbitol (col. 3, lines 5-8). Syed teaches that the composition may be in the form of a solution or a cream (col. 3, lines 9-12).

The instant invention is drawn to a method of protecting a keratinous fiber from extrinsic damage or repairing a keratinous fiber following extrinsic damage, wherein repairing a damaged keratinous fiber, according to the applicant's interpreted definition, means increasing the alpha-structure and/or increasing the tensile strength of damage to keratinous fibers.

Syed teaches a method for increasing the tensile strength and reducing hair damage comprising the application of a composition composed of sugars (i.e., sucrose, glucose, fructose, sorbitol and glycerol). Syed explicitly teaches at col. 2, lines 48-56, that the addition of a sugar, directly applied to the lanthionization composition, surprisingly, results in hair that has greater tensile strength as compared to a lanthionization composition, which does not contain any sugars.

The applicant attempts to distinguish over the prior art by including specific definitions for the terms, "protecting" and "repairing". However, the prior art fully meets the criteria for providing an effective composition for preserving or increasing the tensile strength of hair. In addition, the applicant's have not shown any unexpected results that accrue from the use of C₃-C₅ sugars. The prior art has initially shown that beneficial effects are brought about by the use of various sugars in hair compositions.

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Therefore, it would have been obvious to one of ordinary skill in the hair art at the time the invention was made to use the teachings of Syed, who teaches a method for the reduction of damaged hair and particularly a method wherein hair can have greater tensile strength due to the application of a composition comprising sugars because Syed explicitly teaches that the addition of sugars to the composition can surprisingly increase the tensile strength of hair. The expected result would be an effective method for the repair of hair fibers and thus stronger, healthier hair.

In conclusion, the prior art teaches that the claimed sugars are useful in protecting keratin fibers from external damage. The sugars are useful in protecting hairs against split ends, increasing tensile strength and reducing damage during harsh treatments. The art further teaches that such sugars may be incorporated into formulations and subsequently treated permanent wave lotions or relaxing compositions because these sugars are known to provide beneficial properties to hair and keratinous fibers. Thus, the invention is rendered *prima facie* obvious over the prior art of record.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Humera N. Sheikh whose telephone number is (571) 272-0604. The examiner can normally be reached on Monday through Friday from 8:00A.M. to 5:30P.M., alternate Fridays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thurman Page, can be reached on (571) 272-0602. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

H. N. Sheikh *H.N.S.*

Patent Examiner

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November 01, 2004


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